

## Purification Facility construction progressing well

Work on the first production facility built at Y-12 since the early 1970s is proceeding well, said Mark Sollenberger, project manager for the new Purification Facility.

The new facility is the first of Y-12's modernization efforts to reach this stage of execution.

"We are pumped," Sollenberger said.

Major excavation and rock backfilling of the site have been completed. Underground utilities are being installed and tested. The first concrete pour of duct banks and facility foundation walls was completed in early November.

The project is on a tight, aggressive schedule according to Sollenberger.

The \$50 million facility is the first major construction in the modernization efforts at the plant and will recycle and purify special materials. The project is part of the Special Materials Capabilities program of Y-12's multiyear modernization plan. The facility is scheduled for completion in 2004.

Sollenberger points out that while ground may have been broken in late summer, he and his team, which includes personnel from engineering design;

**"This team has had to lay all new track, they've had to establish the norm for the other facilities to come, and they've done it spectacularly."**

environment, safety and health; construction; facility safety; scheduling; estimating; quality and business management, have been working the plan for three years.

"We've spent three years working through the challenges of building a nonnuclear, chemically hazardous facility inside the fence of a nuclear facility," said Sollenberger. "This team has had to lay all new track, they've had to establish the norm for the other facilities to come, and they've done it spectacularly."

Scott Cannon, National

Nuclear Security Administration project director, said, "I second Mark's statement about the Integrated Project Team (IPT). This is the best project team, contractor and federal, I have worked with in my 18-year career. The NNSA/BWXT corporate commitment and the IPT's personal commitment are the major reasons for the success of this project."

Core team members are Carol Boudreaux, Susan Corpstein, Terry Ferguson, Rick Whitson, Robert Rettberg, Elmer Baum, Ronald Jeffers, Gary Johnson, Mike Lassiter, Mickie Crowley, Phil Johnson, Jimmy Joplin,



*Workers perform the first concrete pour of duct banks for the Purification Facility.*

Brad Walker, Bron Johnston, Robert Gee, Wayne McMahan, Donna Watson, Sollenberger and Cannon.

The 10,000 square-foot concrete and steel building with brick veneer was designed by Pro2Serve of Oak Ridge and is being built by Foley Construction of Kansas City, Mo. It is expected to create some 70 to 80 jobs during construction and will provide six to eight jobs during operation.

## Employees and families celebrate the holidays



*Aleena Goldston, granddaughter of Mona Wright of Communications Services, shares her holiday wishes with Santa.*

More than 2,000 Y-12 employees' families attended the holiday celebrations at the Oak Ridge Mall and in the Y-12 Cafeteria. Both events were hosted by the Y-12 Employees' Society, with members providing coordination, decorations and logistics.

More than 900 children participated in the activities in the children's room, which included a visit with Santa and a complimentary photo. Children also enjoyed watching a magician, decorating cookies, making crafts and having their faces painted.

Adults enjoyed food and music while mingling with coworkers, retirees and families. During the celebration, several large boxes of toys were collected. These toys, along with those collected by Fire Protection Operations, have been distributed to needy children.

YES donated poinsettias and trees to local institutions, such as Emory Valley Center and Keystone Adult Day Program in Oak Ridge and the John Tarleton Home in Knoxville.

*(See more Y-12 Holiday Party photos on page 3.)*

## Denny's Desk . . .

### Decision Making

You may have heard the old adage “measure twice, cut once.” That saying has a lot to do with what we do here at Y-12. A workplace in which people pay attention to details (i.e., measurements, metrics and feedback) is going to be more efficient. It's also going to be a safer workplace.

Measure twice, cut once. That saying may have originated with carpenters, because I began to understand that concept as a boy helping my father build a little summer cottage near Newburg, N.Y. I started first as a “gopher” more than anything else. When I got a little older, my work on the project began to utilize things that I enjoyed. I found myself having to measure and cut the boards and learning to use a miter box.

This measuring and calculating required me to perform simple trigonometry outside the classroom. It led me to have a love of mathematics that eventually led me into engineering. There are hundreds of engineers, accountants, electricians and



carpenters here at Y-12 with the same focus on measurements and metrics.

A motivated and informed workforce that thinks things through before acting or making a decision makes for a safer environment. When workers at any level take time to ask the difficult question or review the decision-making process, they are ensuring a safer, more productive environment. We will all have a better

facility if employees take the time to ask, “Do we have all of the information to support this decision? What about a peer review or other validation?” Addressing such questions will have a positive impact on safety and security.

Attention to detail is extremely important at Y-12. It affects every aspect of our business from safety to industrial hygiene to construction to maintenance to security to production. Your support in making attention to detail an integral part of your job is very much appreciated and will ensure a safer, more productive work environment for all of us.

## Technologies, improvement initiatives showcased

*ADAPT and SRC are working together to provide Y-12 with the new or restored capabilities needed to ensure the ability and agility to meet mission needs and improve affordability.*

Y-12 recently hosted the first combined Advanced Design and Production Technologies and Stockpile Readiness Campaign Annual Review.

“The joint ADAPT/SRC review was a complete success,” said Mark Livesay, National Nuclear Security Administration Y-12 Site Office SRC Program Manager. “This was an opportunity for Y-12 to showcase some of our new technologies and performance improvement initiatives with Headquarters and the rest of the complex.

Presentations, tours and demonstrations were excellent.”

The review, which was attended by NNSA program managers and representatives from other Nuclear Weapons Complex sites, earned rave reviews from Roger Lewis, NNSA Readiness Campaigns program manager.

“One of the benefits of the joint program review,” said Lewis, “was that in several instances a complete story of effective program support could be portrayed, starting with a customer need, an ADAPT and/or Plant Directed Research and Development initiative, flowing into Stockpile Readiness and then into Readiness in Technical Base and Facilities and Directed Stockpile Work.” The prototype Rapid Transfer Port provided a hands-on exhibit of one such technology.

The various NWC site representatives also reported on accomplishments and projections for the programs at their sites. The review also included demonstrations of several Y-12 projects currently under way and a tour of various Y-12 operating areas showcasing several completed projects that will support both Directed Stockpile Work and Complementary Work activities.

### Technologies demonstrated



*Edd Stalsworth and Jesse Haney of Dimensional Inspection operate two of the advanced coordinate measuring machines being deployed across Y-12.*



*James Randolph, a machinist in General Manufacturing, operates one of the new machines acquired by the Stockpile Readiness Campaign to support mission requirements.*

## Holiday Party



*Donna Ruddy (left), wife of President and General Manager Dennis Ruddy (right), with Santa at the Y-12 Holiday Party at Oak Ridge Mall.*



*Y-12 employees enjoy the festive fare at the Y-12 Holiday Party held on-site at the Y-12 Cafeteria.*



*Santa chats with Amelia Shreeve, granddaughter of Mark Shreeve of Product Quality Assurance.*



*Kids and adults alike delight in face-painting at the Y-12 Holiday Party.*

## Hey, look! No disk! Diskless technology reduces risks

In any environment, the use of removable media increases opportunities for information to be misplaced and potentially misused. Minimizing that potential risk is at the heart of the two-person rule for classified media.

Y-12 is now focusing on further reducing that risk by moving to controlled workstations with no disk storage or media-writing capability. Many users of classified systems are migrating to Thin Clients or other diskless workstations that use server-based technology to store user files remotely and securely.

In this environment, application software (like Microsoft Office, Outlook and other tools) is provided on a large, fast, central computer. Users connect from a special Thin Client terminal to access files and use software in the most efficient computing environment available. Thin Client sessions provide a full graphic Windows interface, just as if the user were sitting at the server console.

For greater local computing power or more individualized software configurations than Thin Client technology can accommodate, some groups may use remote network "bootstrap" PCs that allow a PC with any hardware and software configuration to run without a local hard drive. These PCs will access all software, including the operating system, across the network but will execute all software locally at the desktop.

Using these diskless workstations will enable the automation of security configurations, software updates and maintenance. The convenience to users and cost savings to the company are such that many unclassified users may also be best served by Thin Clients or remote boot PCs in the future.

In addition to decreasing costs, such workstations also minimize technology worries for the users. Today's disks may be well on their way to becoming tomorrow's coasters.

## First Street face-lift

*The much-needed paving of First Street, the main traffic thoroughfare at Y-12, was completed before year-end and just in time for the winter weather. More improvements are planned in 2004 to enhance the appearance of the site. For information on future improvement plans, be sure to check upcoming issues of BWX TYmes and YSource.*



## Security planning

*Dennis Ruddy (third from left) discusses Y-12's security posture and future plans during a tour of the Complex with (from left) Bill Brumley, manager, National Nuclear Security Administration Y-12 Site Office; Linton Brooks, Under Secretary of Energy for Nuclear Security/Administrator of the National Nuclear Security Administration; Rep. David Hobson (Ohio); Rep. Zach Wamp (Tenn.); and Rick Glass, manager, Security Operations for BWXT Y-12.*

# 2003 Accomplishments

## Safety

- Recorded the lowest number of occupational injuries in ten years
- Earned the Green Cross for Safety Excellence Achievement, Certificate of Merit for Outstanding Safety Practices and the Significant Improvement in Safety Performance Award awarded by the National Safety Council
- Successfully passed the Integrated Safety Management review by the U.S. Department of Energy's Office of Independent Oversight and Performance Assurance
- Upgraded safety bases
- Established a solid, sustainable criticality safety program
- Submitted safety analysis reports for compliance with 10 CFR 830
- Introduced behavior-based safety
- Developed and implemented a plan to clean, encapsulate and label 51 polychlorinated biphenyl-contaminated transformer pads seven and a half weeks ahead of schedule
- Identified emergency and exit lights not meeting plant requirements and received funding for replacement
- Hosted the third annual Safety Expo with more than 9,000 attendees



## Security

- Hosted the 100th inspection by the International Atomic Energy Agency
- Eliminated 9,500 classified parts
- Obtained an expansion of indemnification for emergency response activities, allowing for support of national security efforts to fight terrorism
- Implemented Integrated Safeguards and Security Management
- Successfully issued the Site Safeguards and Security Plan



## Productivity/Performance

- Met all Directed Stockpile Work production deliverables for all programs

- Met all National Security Programs production deliverables for all customers
- Restarted wet chemistry operations, the most complex and largest restart in Y-12 history
- Successfully responded to a major redirection in the DSW program for the W87 Life Extension Program
- Completed all FY 2003 baseline work
- Achieved 96 percent (\$1.1 million) of all construction performance-based incentive milestones
- Earned good reviews from the OA-50 team
- Substantially improved performance on general plant and general plant and equipment projects
- Met or exceeded comprehensive incentives in all areas of critical skills performance
- Received no major findings during audits by the Office of the Inspector General



- Developed and issued 28 Utilities Management award fee procedures ahead of schedule
- Streamlined Freedom of Information Act/Privacy Act office work to handle a 40 percent increase in workload without adding staff
- Flattened the organization structure, decreasing layers of management and improving communication and efficiency

## Modernization/Infrastructure Improvements

- Awarded and mobilized the first major construction subcontract for the Purification Facility project and broke ground for construction of the facility
- Eliminated 100,000 square feet of excess buildings
- Reconfigured an underground circuit after the removal of Building 9404-12
- Successfully downgraded a Material Access Area in Building 9206 as part of the overall plan to deactivate the building
- Repaired seven acres of roofs and completed seven acres of new roofing



- Completed more than 100 maintenance projects, including numerous painting and paving projects

## Planning/Project Management

- Received Critical Decision 2 approval for the Highly Enriched Uranium Materials Facility
- Revamped the baseline change control process by including FY 2003 carryover work in the FY 2004 baseline
- Developed and issued a ten-year plan
- Developed and issued a strategic plan
- Established rapport with Defense Nuclear Facilities Safety Board staff on the Purification Facility and the Highly Enriched Uranium Materials Facility
- Improved credibility with the National Nuclear Security Administration in project management
- Recognized as very strong or best in class by four separate external assessments
- Initiated a building manager/maintenance prioritization and scheduling process
- Began project for construction of the Building 9723-34 change house
- Instituted improvements resulting in timely issuance of all 38 work authorization documents

## Personnel Development

- Implemented LINKS, a leadership development and personnel planning system
- Performed succession planning
- Diversified senior management, reducing the underutilization of minorities and women
- Hired 136 new college graduates
- Initiated program-management-based leadership of the indirect program
- Employed 104 summer interns and co-op students
- Graduated 66 employees in the New College Graduate Mentoring Program
- Implemented a 90-day probationary period for new hires and transfers

## Communications

- Hosted Y-12's 60th anniversary celebration, where Rep. Zach Wamp presented a flag flown over the U.S. Capitol in honor of the men and women of Y-12

- Conducted an all-hands meeting for employees
- Enhanced employee communications through the use of the company intranet, YSource
- Improved communication through monthly roundtable and supervisory/management sessions
- Implemented a “No More Surprises” question-and-answer forum for employees

### Continuous Improvement

- Evaluated key work processes through process evaluations
- Conducted six Management Assessment Feedback and Improvement workshops
- Established metrics as a business management tool
- Implemented a performance indicator system within the Facilities, Infrastructure and Services division
- Implemented a duct cleaning initiative for the site
- Inserted new technology into 36 projects
- Removed 2,183 cubic yards of scrap metal and 2,964 cubic yards of debris through the Clean Sweep Program
- Reduced legacy radioactively contaminated waste by approximately 139,000 cubic feet, which is the most waste removed from Y-12 in 20 years
- Implemented a program for scheduled maintenance outages
- Modified or canceled 44 department-level procedures
- Reduced the cycle time for pre-employment drug screening by outsourcing
- Procured 131 government vehicles to replace the most run-down vehicles in the fleet
- Assigned a full-time Conduct of Operations improvement program manager
- Reduced overdue actions by 85.7 percent and reduced overdue issues and plans by 100 percent
- Connected site access training with the badge reader system
- Integrated the Price-Anderson Amendments Act and issues management systems to improve screening of events and occurrences
- Trained more than 120 Six Sigma yellow belts



### Community Involvement

- Organized Day of Volunteering where more than 300 employees and family members supported 30 community projects
- Donated more than \$300,000 to East Tennessee charitable organizations
- Funded a \$40,000 endowment for an engineering scholarship at The University of Tennessee, Knoxville
- Expanded efforts in college and university outreach and improved outreach to minority institutions
- Increased employee participation in the United Way campaign by 30 percent
- Entered agreement with Tennessee State University to enhance technology transfer and provide a loaned executive
- Matched more than \$20,000 in contributions to colleges and universities
- Established a mentor-protege agreement with MS Technology, a local small business
- Provided support for the JASON project, a supplemental science education curriculum program for grades four through nine
- Received the Dwight D. Eisenhower Award of Excellence for use of small businesses
- Received the Public Relations Society of America Quality award for public service
- Established a Community Relations Council that includes 20 local volunteer opinion leaders



### Cost Savings

- Accomplished all direct-hire construction work five percent under budget
- Improved escorting ratios, yielding a cost savings of approximately \$700,000
- Minimized laundry loss, saving \$206,000
- Reduced staff augmentation by 50 percent
- Saved \$225,000 by reducing the number of licensed government vehicles
- Underran construction staffing budget by approximately \$900,000
- Completed Six Sigma Process Improvement Projects that will result in more than \$21 million in savings
- Implemented an aggressive Deferred Maintenance Program, reducing more than \$17 million of deferred maintenance liability



## e-QIP equips government for long-term savings

Most of us remember filling out our Questionnaire for National Security Positions. In fact, it's hard to forget completing those ten-plus pages of information.

As part of an e-Clearance program, Technical Computing has developed the Electronic Questionnaire for Investigations Processing, or e-QIP, for the U.S. Office of Personnel Management.

Using Web-based collection of data, e-QIP significantly reduces the processing time for security investigation forms. In fact, the system is so user friendly that even the visually challenged can complete the questionnaire using an audio-text form.

e-QIP reduces costs, too. It's one of three projects under the e-Clearance program that is expected to save the government about \$258 million over the next ten years.

While the system is easy to use, the project had to overcome a number of technical challenges. One such challenge was the need to support rapid development and change of dynamically generated Web forms.

After using more traditional development methods, the team determined that a new tool was needed and developed Form Description Markup Language.

FDML supports rapid implementation of electronic forms from a single script describing the form's structure. This new tool significantly streamlines the tedious process for the management and storage of data entered through forms, thus enabling the designer to focus on the form's content and business rules.

The FDML tool kit builds upon a set of widely supported standards, making this technology and the data it produces easier to integrate with other computer systems. This tool will enable the creation of flexible electronic form solutions both internally and for our external customers.



### Prudent parking points

It doesn't seem that a parking lot is a likely place for an accident, but some observation of the Y-12 parking lots might have you thinking differently.

When entering parking lots or looking for a parking space, good judgment seems to take a back seat. Signs, such as "Do Not Enter," "Stop" or "Yield," seem to be viewed as optional, while some drivers ignore the traffic lanes to cut diagonally across the lot or drive the wrong way in the traffic aisles.

The following are some suggestions to consider when driving in all parking lots.

- Use extreme caution and drive slowly.
- Obey all traffic signs.
- Avoid complacency and be aware of everything moving around your vehicle, including pedestrians.
- Avoid using cellular phones or changing the radio station.
- Watch for cars cutting diagonally across the lot.
- Use your lights and turn signals appropriately.
- Be aware of pedestrians and other vehicles when backing out of parking spaces. Be prepared to stop quickly should any hazard appear.

**Drive safely in Y-12 parking lots so you can arrive safely home.**

### Y-12 contributes much 'pomp' to the holidays

Despite the cold and slightly damp conditions, 15 BWXT Y-12 employees and eight of their children accompanied this year's entry in the Oak Ridge Christmas Parade.

Following the theme of this year's parade, "A Star-Spangled Holiday," Y-12 produced its biggest float ever for the occasion. Four eight-foot-tall militiamen stood guard next to the American flag on a float meticulously pomed by a crew of Y-12ers and friends. (For the uninitiated, "pomping" involves fastening small tissue "poms" to a chicken-wire framework.)

Members of the float-building crew included Ryan Williams, Brian Polson, Jacob Greenwell, Preston Cloud, Debbie Reed, Stacy Reed, Alice Brandon and Doug Holman, a Y-12 retiree.

Those accompanying the float included Dennis Ruddy, Steve Smith, Pam Horning and her two daughters, Rick Glass and his two sons, Edwena Crowe, Judy Johns, Les and Debbie Reed and their daughter, Bill Wilburn, Glenn Kizer and his son, Ellen Boatner and her daughter, Alice Brandon and her son, Ryan Williams, Jacob Greenwell and Preston Cloud.

*Below, Judy Johns of Safeguards and Security hands out candy to spectators at the Oak Ridge Christmas Parade.*



*Above from left, Preston Cloud, Brian Polson (both of Engineering) and Ryan Williams (Environment, Safety and Health) give the Y-12 parade float the "thumbs up."*

## Initiative promotes Y-12 PRYDE

BWXT Y-12 PRYDE is an initiative to show that we are proud of our site. This initiative will integrate the Good Housekeeping Process with the Clean Sweep, Materials Management and Pollution Prevention/Recycling programs for the disposal of surplus materials and scrap.

As with any effort, success relies upon individuals taking personal responsibility. You are encouraged to keep your work area clean and neat and to help identify and address common areas that need attention.

Housekeeping encompasses all activities related to the cleanliness of facilities, materials and equipment and the elimination of clutter, nonessential materials and hazardous conditions.

The following general housekeeping practices must be applied to all areas where employees are housed or perform work.

- Store material and equipment in appropriate locations.
- Clean up liquid spills quickly.
- Keep equipment clean and in good working condition.
- Keep individual work areas clean to ensure safe and efficient work performance.
- Organize shelved items so they don't fall when nearby items are retrieved.
- Keep floors clean and free of debris.
- Don't store unnecessary combustibles.
- Store items 18 inches below the plane of sprinkler heads, or 24 inches below the ceiling in areas without automatic sprinkler systems.
- Ensure fire extinguishers, other safety devices and fire exits are easily accessible.
- Keep bulletin boards updated and in good order.
- Use the proper procedures for recycling all designated materials (see procedure Y71-177, *Y-12 Complex-Wide Recycling*).

More information will be available on YSource and in future issues of the *BWX TYmes*. Questions or comments on this initiative should be directed to Ron Walton (Imw; 576-8388). Ron is also available for group informational meetings.

## Service Anniversaries – December

### 35 years

**Applied Technologies:** Douglas O. Colclasure

**Engineering:** Robert R. Bigelow, Bert Niemann

**Facilities, Infrastructure and Services:** Benny L. Doyle, John L. Martin, James W. Miller, William R. Pickett, Danny W. Richards, James L. Young Jr.

### Quality Assurance:

Thomas T. Adams, Reed B. Durham, James R. Williams

### 30 years

**Engineering:** Sam E. Hamblen, John B. Henson III

**Environment, Safety and Health:** John P. Fry

**Facilities, Infrastructure and Services:** Donald G. Muldrew

### 25 years

**Applied Technologies:** Teri S. Ball, Paul S. Smith



## Protecting our nation

*Dwayne Beaty (far right), a Y-12 employee who has been on active duty in Iraq, visits with fellow employees (from left) A.C. Beason, Oneda Whalen and F. D. Sweeten. Beaty is home on leave and dropped by to see several of his friends in Facilities, Infrastructure and Services. Beaty has been in Iraq with a combat heavy-equipment transport unit since April and on active duty since February. "My unit has been from one end of the country to the other. I appreciate everybody's support and their continued prayers," he said. Beaty, who will return to Iraq soon, said he expects to be there until late spring.*



Where can we find the list of physicians who are in the CIGNA open network?

**You may check your healthcare provider's status on the CIGNA open access network by going to [www.cigna.com](http://www.cigna.com) and selecting "Provider Directory." You may then select the type of provider (physician or hospital) and how you would like to search (by zip code, physician, etc.). From the list labeled "For Network and Point of Service Plans" under "Network Plans," select "TN-Seamless (Network, Network POS, Open Access)." From the options found under "Select Healthplan Network," select the option closest to your residence or place of work. Continue through the various options to display the results of your search criteria. CIGNA is updating the online directory weekly with newly added physicians.**



*The ISSM Challenge winners were selected in a drawing in the cafeteria. At left, Ellen Boatner and David Alger of the ISSM Challenge steering committee assist Dennis Ruddy in announcing the lucky employees. A complete list of the winners may be seen at <https://www-internal.y12.doe.gov/security/issm/challenge-winners.html> on YSource.*

## FMSS unveiled at military surgeons meeting

Vice Adm. Richard H. Carmona, U.S. Public Health Service, holds the power switch to the Future Medical Shelter System, which was displayed at the annual meeting of the Association of Military Surgeons of the United States. BWXT Y-12's Lee Bzorgi, the lead design engineer for the FMSS project, and Maj. Gen. Lester Martinez-Lopez, commanding general, U.S. Army Medical Research and Materiel Command, right, observe. The FMSS, built by BWXT Y-12, is intended for use as a rapidly deployable, far-forward surgical facility. The power button pushed by Carmona caused the FMSS to automatically expand to its operational size of approximately 20 feet by 20 feet in 30 minutes.



## BBS card sharks

Mary Benton (far right) and Sid Kelley give a blindfolded William McGhee instructions on how to put a deck of cards in chronological order by suit as part of the behavior-based safety training held recently in Gatlinburg. The purpose of this activity is to show the necessity of clear communications, the value of coaching and the importance of immediate feedback. Benton is one of Y-12's eight BBS internal consultants. Kelley of Fire Protection Operations and McGhee of General Plant Maintenance are Atomic Trades and Labor Council representatives participating in the training. Other BBS internal consultants are Randy Bradford, Monty Fritts, Edd Stalsworth, Bruce Valentine, Nick Varsalona, Vicki Walls and Peggy Webb.

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